

**Island Creek Coal Company
Virginia
Visibility Results for 2001-2003 CALPUFF Screening Runs
CALPOST, Method 6
Using annual average Haze Index (HI) values in processing**

Table 1. Stack parameters and emissions

Stack ID #	Lambert Conformal Coordinates		Stack Height	Base Elevation	Diameter	Gas Exit Velocity	Stack Gas Exit Temp.	SO ₂ Emissions	SO ₄ Emissions	NO _x Emissions	PM ₁₀ Emissions	PM _{2.5} Emissions	NH ₃ Emissions
	LCC East	LCC North											
	km	km	m	m	m	m/s	K	g/s	g/s	g/s	g/s	g/s	g/s
P001	1312.776	-196.707	32.31	365.76	2.74	13.11	338.71	12.2220	0.7097	14.9436	3.4146	1.5196	

Table 2. Particle Speciation

Stack ID #	particle speciation		Condensable				Filterable									
	filterable PM ₁₀	condensable PM ₁₀	organic condensable (OC)		inorganic condensable		COARSE		Soil				Elemental Carbon (EC)			
	%	%	0.625-1.0 μm (g/s)	0.5-0.625 μm (g/s)	0.625-1.0 μm (g/s)	0.5-0.625 μm (g/s)	6-10 μm (g/s)	2.5-6 μm (g/s)	1.25-2.5 μm (g/s)	1.0-1.25 μm (g/s)	0.625-1.0 μm (g/s)	0.5-0.625 μm (g/s)	1.25-2.5 μm (g/s)	1.0-1.25 μm (g/s)	0.625-1.0 μm (g/s)	0.5-0.625 μm (g/s)
P001	76.4	23.6	0.0403	0.0403	0.3629	0.3629	0.1726	0.9173	1.4629	0	0	0	0.0567	0	0	0

Note: PM₁₀ and PM_{2.5} emissions (in g/s) provided by the state for stack P001 are 3.4146 and 1.5196, respectively. The adjustments were made in Table 1 (in blue) to match the PM speciation provided by the state in Table 2, such that:

$$OC + IOC + Coarse + Soil + EC + H_2SO_4 = PM_{10} \text{ and } Coarse = PM_{10} - PM_{2.5}$$

Table 3. Summary of Visibility Results

Class I Area	2001	2002	2003	Annual average background b_{ext}
	Maximum delta-deciview, (# days > 0.5 dv, # days > 1 dv)			(Mm^{-1})
Dolly Sods	0.043 (0 0)	0.020 (0 0)	0.045 (0 0)	21.13
Great Smoky Mountains	0.149 (0 0)	0.059 (0 0)	0.106 (0 0)	21.39
James River Face	0.060 (0 0)	0.093 (0 0)	0.119 (0 0)	20.96
Joyce-Kilmer-Slickrock	0.051 (0 0)	0.049 (0 0)	0.066 (0 0)	21.40
Linville Gorge	0.099 (0 0)	0.119 (0 0)	0.132 (0 0)	21.36
Otter Creek	0.033 (0 0)	0.024 (0 0)	0.057 (0 0)	21.14
Shenandoah	0.049 (0 0)	0.040 (0 0)	0.054 (0 0)	20.98
Shining Rock	0.093 (0 0)	0.052 (0 0)	0.158 (0 0)	21.40